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ALBINO FRUIT OF VACCINIUMS IN NEW ENGLAND.

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MISS HELEN F. AYRES of Medford, Massachusetts, has sent me specimens of a white-berried blueberry, *Vaccinium pennsylvanicum*, Lam., collected by her in the town of Fitzwilliam, New Hampshire, and she has also kindly furnished me with such full information in regard to the plant and its surroundings that I am enabled to make the following note. The bushes grow in a pasture and cover a space of about one square rod. The pasture in this locality is on a side hill and the soil is not rocky but rather dry. Some of the bushes are under the shade of the neighboring trees, while others are exposed to the sun. The plants are from six to eight inches tall and have been growing on this spot year after year for a long time, one bush having been found here about twenty years ago. There are now about twenty bushes in all and they bear only white berries, no other bushes in the town bearing berries of this color. A number of bushes of the typical *Vaccinium pennsylvanicum* are growing among the white-berried forms, and in the neighborhood are found various kinds of blueberries, *Vaccinium corymbosum* and its variety *atrococcum*, *V. pennsylvanicum*, which comprises nine-tenths of the berries in the pasture, and its variety *nigrum*, besides the common huckleberry, *Gaylussacia resinosa*, a plant not common in Fitzwilliam. The pasture supports a luxuriant growth of thistles, evening primroses, chokeberries and other plants which crowd the ground.

Miss Ayres sent me fresh specimens of the white-berried blueberry and other interesting forms growing near. They were gathered by her on August 15 last, on which day the white berries were falling rapidly, though the others still remained on the bushes. I received

these specimens on the next day, the 16th, and was thus enabled to make observations on them as if I had picked them on the spot. In the white-fruited form the berries were fully ripe and very sweet in comparison with those of the type, and the skin was very thin. They were translucent and the color was a creamy white, while in most cases the berries had a light rosy tinge on the side exposed to the sun. The calyx tips in many cases were of a light pinkish color, but in other respects the plant was typical.

Messrs. E. L. Rand and J. H. Redfield have recorded white-berried plants of this species from Mount Desert, Maine (Flora of Mount Desert, Maine, 1894, p. 124). Mr. Rand tells me that he found the plant on Jordan Mountain, September 2, 1892, and that the fruit was of a dull white, tinged with red, especially at the apex, but not pure albino. He has sent me specimens. These instances of white-fruited *Vaccinium pennsylvanicum* are the only ones that I am acquainted with from New England. Prof. Thos. C. Porter in 1894 (Bull. Torr. Club, XXI, pp. 121, 122) reported white-berried forms of this same species from Monroe County, Pennsylvania, and according to the precedent of Prof. Britton's *Gaylussacia resinosa*, forma *leucocarpa* (Bull. Torr. Club, XVII, 1890, p. 125) I will designate this form *Vaccinium pennsylvanicum*, forma **leucocarpum**. Its continued occurrence for so many years in the same place entitles it to some formal recognition. In my list of New England *Ericaceae* (RHODORA 1, 1899, p. 94) this form should be entered with a cross for New Hampshire and Maine.

I examined carefully the other specimens of *Vaccinium pennsylvanicum* growing near forma *leucocarpa* and I will record briefly the results. There are five forms:— 1, The typical form, berries black with heavy bloom, taste normal; 2, berries black with slight bloom, taste as in no. 1, rest of the plant typical; 3, berries black without bloom, taste as in no. 1, but leaves hirsute below on the midrib, oblong lanceolate, shining on both sides, twigs warty as in the type; 4, berries dull red without bloom, taste insipid, plant otherwise typical; 5, berries dark red with bloom, taste insipid, plant otherwise typical. In all these cases the fruit was perfectly ripe. These five forms I would regard as merely individual variations whose persistency has yet to be proved. (See also Flora of Mount Desert, Maine, 1894, p. 124.)

I received from Mr. Arthur S. Pease of Andover, Massachusetts, on July 28 last, fresh specimens of *Vaccinium corymbosum*, var. *atrococcum*

(a variety of our high bush blueberry) with white berries collected by him in Andover on July 27. The berries were translucent and of a creamy white color, the skin was very thin, but the taste, unlike that of the white-berried form described above, was insipid. Mr. Pease, in the letters of information which he kindly wrote me, says, "There is only one bush, growing on a hillside among bushes of the type and var. *atrococcum*. The bush is about five or six feet high and does not seem to differ at all from the bushes about it. . . . The insipid taste in the berries which you remarked upon I myself noticed, as did all the other persons who tasted the berries that I gathered—I find that berries of this sort have been gathered in this locality for at least eight or ten years and perhaps longer." The persistency of this white-fruited blueberry seems to entitle it to recognition as *Vaccinium corymbosum*, var. *atrococcum*, forma **leucococcum**. It should be entered on my list with a cross for Massachusetts. All the specimens described above by me from fresh material are in my herbarium.

Mr. William Brewster tells me that there is a high bush blueberry, *Vaccinium corymbosum*, L., bearing white berries on his farm in Concord, Massachusetts. Local tradition affirms that this bush has fruited many years.

Mr. E. L. Rand has kindly shown me specimens of a white-fruited Canada blueberry, *Vaccinium canadense*, Kalm., collected by Miss Harriet A. Hill of Belmont, Massachusetts, early in September, 1901, in Gouldsboro, Maine. Captain George Allen of Gouldsboro told Miss Hill of the blueberries and conducted her to the locality. I will quote the following from Miss Hill's letter to Mr. Rand describing the situation:—

"We went up a slight rise of land to a small clearing where there was a thick growth of the Canada blueberry, mountain cranberry, brakes, golden-rod, etc. All around was a scattering growth of spruces, canoe birches, yellow birches and balsam firs. In the middle of the clearing on the westerly slope of the ridge we found a patch about ten feet square of the white Canada blueberry, surrounded on all sides by the common variety. So far as we could see there was no difference in the soil or the environment of the two varieties. They grew side by side yet each perfectly distinct. Capt. Allen told us that they had been there ever since he could remember." Mr. Rand has seen fresh fruit from this locality and he describes the color of the ripe berries as a dead waxy white, that of the unripe fruit being a

yellowish hue. From my examination of the specimens the plant is in all other respects typical. I will designate it *Vaccinium canadense*, forma **chiococcum**.

Prof. Wm. G. Farlow records white-fruited *Vaccinium canadense* from Shelburne, New Hampshire (Garden and Forest, II, 1889, pp. 50, 51). This form should be entered in my list with a cross for Maine and a line for New Hampshire.

I will mention two records outside of New England. *Vaccinium vacillans* with white berries is recorded from the sand region east of Chicago, Illinois, by Mr. E. J. Hill (Garden and Forest, VIII, 1895, p. 503). He says that the plants are known to the berry pickers, thus indicating that the form is a persistent one, and he thinks that the seeds are fertile.

Prof. Thos. C. Porter in 1889 (Bull. Torr. Club, XVI, p. 21) records white-berried *Gaylussacia resinosa* from Pennsylvania and New Jersey.

The writer will be very glad to hear of any other stations in New England or elsewhere for white-berried forms of *Vaccinium* or *Gaylussacia*.

CAMBRIDGE, MASSACHUSETTS.

MISCELLANEOUS NOTES ON NEW ENGLAND FERNS,— II.

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3. In the course of these notes some important changes will be adopted, but in all cases such explanations will be given as will render the reasons therefore clearly understood.

For instance: — The Lady fern, until quite recently, has been known to American fern students as *Asplenium filix-foemina* although Prof. Eaton, and Dr. Underwood have recognized Roth's *Athyrium* as a section of *Asplenium* in accordance with the treatment of Hooker and Baker.

Many excellent authorities, however, have regarded *Athyrium* as wholly distinct from *Asplenium* and kept the two apart. The former appears to be well represented by a group of ferns quite distinct in habit, structure and the character of their sori from *Asplenium*